Capacity gap of nursery service for children with mild illness among municipalities in Japan

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[Background] Most of nursery schools in Japan do not accept children with mild illness in order to prevent epidemics. Families using nursery schools must seek an alternative care provider when their children have a sudden-onset illness. To support these families, many municipalities in Japan subsidize nursery facilities for children with mild illness. However, there is a capacity gap of such services among municipalities in Japan.

[Purpose] To determine the factors related with the capacity of daycare facilities for children with mild illness in each municipality of Japan.

[Material and Methods] List of nurseries for mild illness was provided by the Ministry of Health, Labour, and Welfare. Using multivariate linear regression analysis, accepting capacity of nurseries for children with mild illness in each municipality was explained by nursery users, pediatricians, population, budget balance, and located region.

[Results] The adjusted coefficient of determination (R^2) in multiple regression was 0.684 (P <0.001). The absolute value of Standardized partial regression coefficients (mean, 0; SD, 1.0) were as follows; General nursery school users, 0.663; Pediatricians, 0.256; Budget balance, 0.084; Regional dummy variables, 0.075; City population size dummy variables, 0.053.

[Conclusion] Capacity gap of the nursery services for children with mild illness in Japan was mainly explained by structural issues such as nursery school users, number of pediatricians, and budget balance of local government.

Table. Multivariate regression analysis of accepting capacity of nursery services for children with mild illness in municipalities

	Partial Regression B	SD	Standardized Partial Regression(beta)	P
(Constant)	-1.248	0.840		0.138
Nursery users (x10^3 persons))	1.806	0.107	0.663	<0.001
Pediatricians (persons)	0.071	0.011	0.256	<0.001
Budget balance (x 8 * 10^6 euro)	0.735	0.127	0.084	<0.001
Regional dummy: Kanto (including Tokyo as reference)				
Hokkaido	0.373	0.462	0.013	0.420
Tohoku	0.559	0.430	0.022	0.194
Chubu	0.977	0.387	0.046	0.012
Kinki	0.660	0.445	0.025	0.138
Chugoku	2.656	0.545	0.075	<0.001
Shikoku	1.643	0.572	0.044	0.004
Kyushu/Okinawa	1.601	0.411	0.068	<0.001
Populational dummy：200 to 300 thousands as reference				
<10,000	0.286	0.833	0.012	0.731
10,000～200,000	-0.055	0.882	-0.002	0.951
300,000~700,000	-2.029	1.044	-0.040	0.052
20 biggest cities (>700,000)	-2.920	1.250	-0.053	0.020
Adjusted coefficient of determination (R^2) : 0.684 (P <0.001)				